

## Ch 2 and 3 Cumulative Test Review

9. Expand and simplify  $3x(2x - 5) - (2x + 1)^2$ .

- a)  $2x^2 - 4$
- b)  $6x^2 - 19x + 1$
- c)  $2x^2 - 11x - 14$
- d)  $2x^2 - 19x - 1$

10. Identify the missing factor:

$$6x^2 - 11x - 10 = (3x + 2)\square$$

- a)  $2x + 5$
- b)  $2x - 5$
- c)  $5x + 2$
- d)  $5x - 2$

11. For the expression  $kx^2 + 6x + 8$ , identify the values of  $k$  that make the trinomial unfactorable.

- a)  $k = 1$
- b)  $k = -2$
- c)  $k = 2$
- d)  $k = 3$

Oct 3-7:35 AM

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14. A rectangular enclosure has an area in square metres given by  $A(W) = -2w^2 + 36w$ , where  $w$  is the width of the rectangle in metres. Determine the width that would create a rectangular enclosure of  $130 \text{ m}^2$ .

- a) 5 m
- b) 13 m
- c) 10 m
- d) 7 m

Roots



Oct 3-7:36 AM

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$$\begin{aligned}
 A(w) &= -2w^2 + 36w \\
 130 &= -2w^2 + 36w \\
 0 &= -2w^2 + 36w - 130 \\
 0 &= -2(w^2 - 18w + 65) \\
 0 &= -2(w^2 - 5w - 13w + 65) \\
 0 &= -2[w(w-5) - 13(w-5)] \\
 0 &= -2(w-5)(w-13)
 \end{aligned}$$

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12. A model rocket is launched straight upward with an initial velocity of  $22 \text{ m/s}$ . The height of the rocket,  $h$ , in metres, can be modelled by  $h(t) = -5t^2 + 22t$ , where  $t$  is the elapsed time in seconds. What is the maximum height the rocket reaches?

- a) 19.5 m
- b) 10.2 m
- c) 24.2 m
- d) 29.6 m

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Oct 3-7:37 AM

p194 67 pop

$$P(t) = 6t^2 + 110t + 3000$$

$t=0$  year 2000

$P(t)$  = # of people

i)  $P(0) = 6000$

ii) pop in 2030

$$P(30) =$$

Oct 7-10:23 AM